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IMPACT OF ERENUMAB ON ACUTE MEDICATION USAGE AND HEALTHCARE RESOURCE UTILIZATION AMONG MIGRAINE PATIENTS: A US CLAIMS DATABASE STUDY

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The final responsibility for the content lies with the authors.

Background and Methods

- This was a retrospective non-interventional observation analysis using Optum's de-identified Clinformatics® Data Mart (CDM) database
- Adult migraine patients initiating erenumab between 1 May 2018 and 30 September 2019 were identified

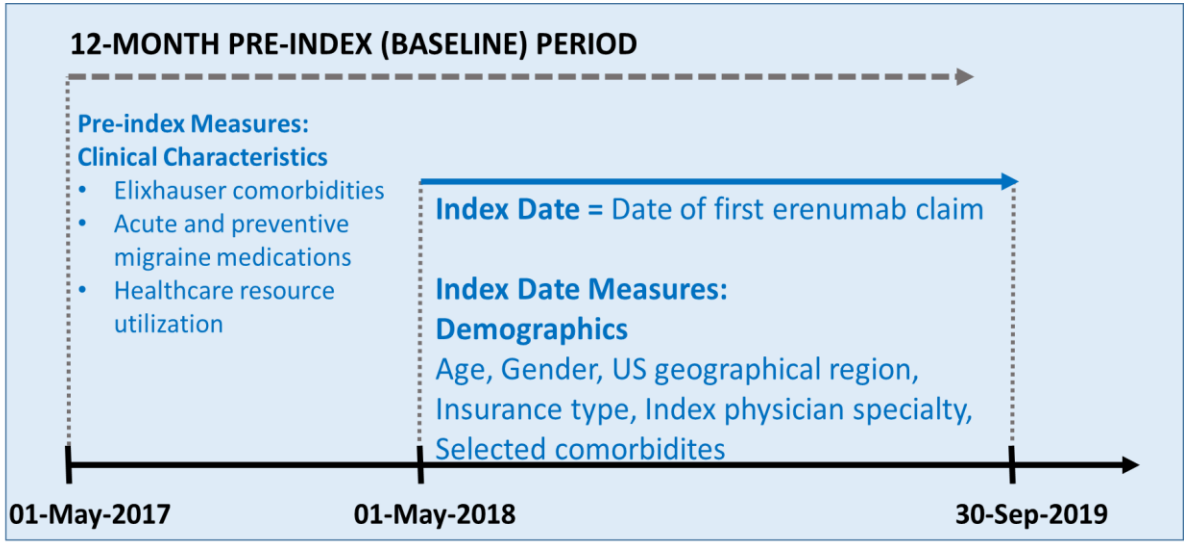
Outcomes

- 6-month acute medication usage before and after erenumab treatment*
- 6-month HCRU (including neurologist/headache specialist visits) before and after erenumab treatment
- Composite endpoint of outpatient visit with a diagnosis of migraine and an associated acute medication claim, hospital admission or emergency room visit with a primary diagnosis for migraine

*Note that use of non-migraine specific acute medications (NSAIDs, opioids, and barbiturates) required a migraine diagnosis on or before seven days of the medication claim

CDM, Clinformatics® Data Mart; CI, confidence interval; HCRU, health care resource utilization; US, United States of America.

Figure 1: Study design



Statistical analysis

- Descriptive analysis was performed
- Negative binomial model with repeated measure for count variables, such as the number of visits and claims, with rate ratios and 95% confidence interval (CI) calculated
- McNemar test for dichotomous variables

Results

Table 1. Demographics and 12-month pre-index characteristics of the population analyzed

	Erenumab cohort (N = 3171)
Age at index date, mean (SD)	50.7 (13.6)
Female, n (%)	2689 (84.8)
CM w/o aura, n (%)	1982 (62.5)
Index physician specialty, n (%)	
Neurologist/headache specialist	2159 (68.1)
General practitioner	439 (13.8)
Nurse/physician assistant	293 (9.2)
Unknown/missing	154 (4.9)
Region, n (%)	
South	1536 (48.4)
West	684 (21.6)
Midwest	667 (21.0)
Northeast	284 (9.0)
Insurance type, n (%)	
Point of service (POS)	1569 (49.5)
Other	741 (23.4)
Health maintenance organization (HMO)	518 (16.3)
Exclusive provider organization (EPO)	214 (6.7)
Preferred provider organization (PPO)	129 (4.1)
Selected comorbidities (>10%), n (%)	
Anxiety	1304 (41.1)
CV disease	1298 (40.9)
Depression	1295 (40.8)
Insomnia	731 (23.1)
Constipation	421 (13.3)

Figure 2: Change in the Average Number of Claims

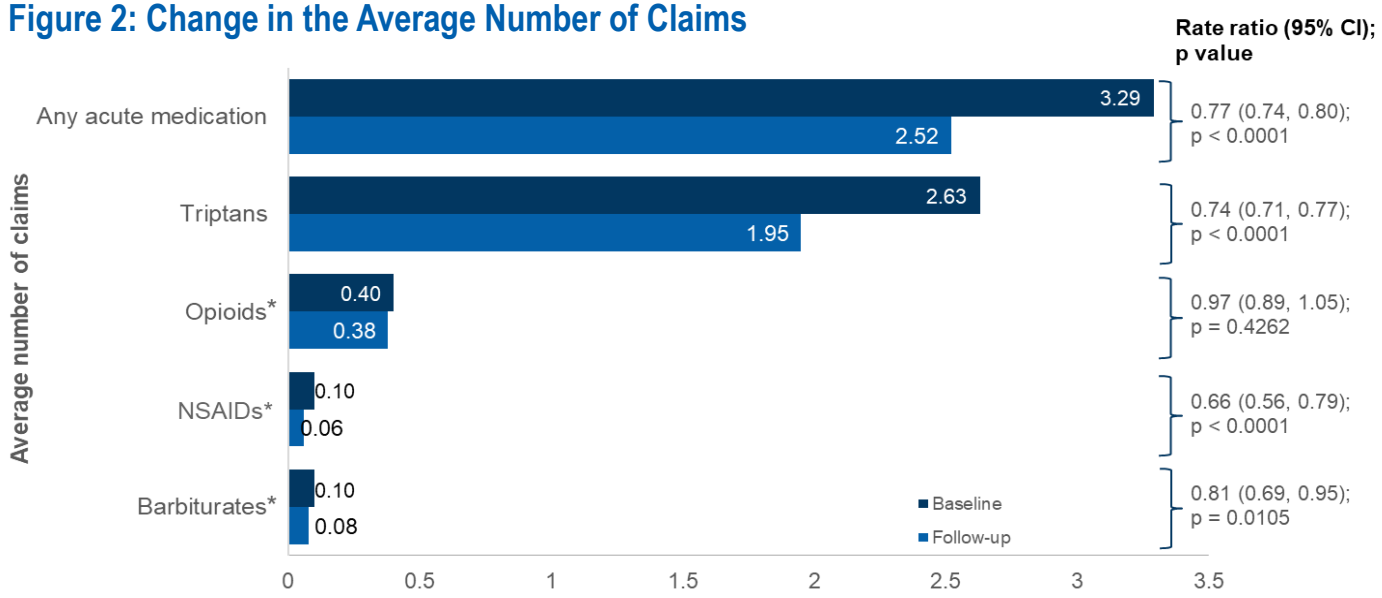
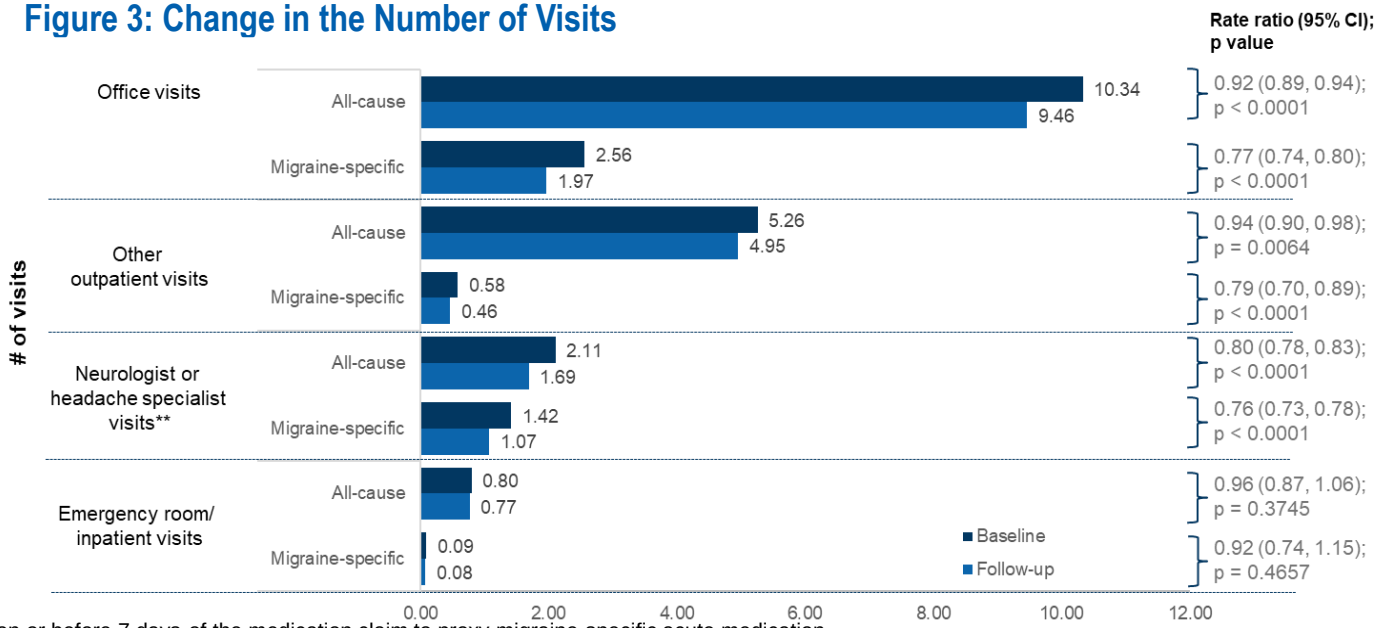


Figure 3: Change in the Number of Visits



*Use of non-migraine specific acute medications (NSAIDs, opioids, and barbiturates) required a migraine diagnosis on or before 7 days of the medication claim to proxy migraine-specific acute medication

**Neurologist or headache specialist visits are a subset of the office visits

CM, chronic migraine; CI, confidence interval; CV, cardiovascular; ER, emergency room; HCP, healthcare practitioner; n or #, number; NSAID, nonsteroidal anti-inflammatory drug; PS, propensity score; SD, standard deviation; SMD, standardized mean difference; w/o, without.

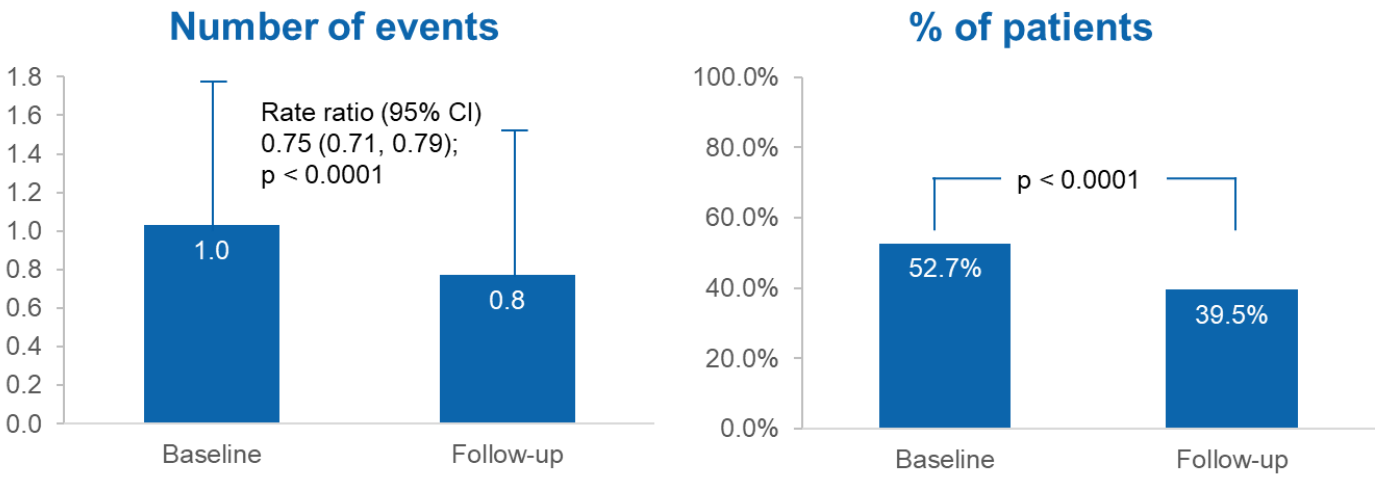
Results and Conclusions

- For the composite outcome:

⇒ Significant reduction in the mean (SD) number of events was observed from 1.03 (1.53) to 0.77 (1.48)

⇒ Proportion of patients with any of the three events also significantly decreased (52.7% vs. 39.5%, P<0.0001)

Figure 4: Composite Endpoint*



***Outpatient visit with a diagnosis of migraine and an associated acute medication claim, hospital admission or emergency room visit with a primary diagnosis for migraine. Any events occurred ≤3 days apart were counted only once. McNemar test for binary endpoint and Negative binomial model with repeated measure for count data were used.**

Conclusions

- Erenumab significantly reduces acute medication use and HCRU in real-world setting, hence significantly reducing the burden of the disease
- Significant reduction of 25% on the composite endpoint of the outpatient visits with an acute medication claim and migraine specific ER or IP visits shows the holistic benefit of erenumab in the real world
- A composite endpoint could be used as a proxy to evaluate migraine attacks, while further research is needed to validate the algorithm

CI, confidence interval; HCRU, health care resource utilization; SD, standard deviation.